

Remarks

The above amendatory action is taken solely for the purpose of avoiding claim fees that would otherwise accrue due to the presence of multiple dependent claims.

Respectfully submitted,

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IN THE SPECIFICATION

A substantial number of modern electronic devices are equipped with a keyboard or keypad of some sort for manually inputting commands into the devices. The most common form of keyboard is that of the common household and business PC keyboard and the most common form of keypad is that of a [mobile] phone.

Untrained keyboard operators use what is called the “hunt and peck” system. Usually they use only their two forefingers or at most their four best fingers, the forefingers and middle fingers. This method requires that the typist keeps their eyes on the keyboard and this affects productivity. Although some of these typists can type about as fast as touch typists, very fast hunt and peck typing is more tiring than for the touch typist because the hands have to leap all around the keyboard to reach all the keys with only two or four fingers. In summary, to “keyboard” correctly, the typist must use the touch typing method described above. There is no middle ground in proper typing; if the typist is not typing correctly, he is typing incorrectly. Similar problems arise in the use of keypads.

There is disclosed herein a key for a keyboard or keypad, said key having an upper finger engaged surface of generally square or rectangular configuration[s] so as to have a top edge portion remote from a user, a bottom edge portion adjacent the user, a left edge portion and a right edge portion, said key further having:

- (vii) a ridge on the next adjacent or next two adjacent keys to said bottom left end key of the bottom row adjacent the bottom edge portion thereof extending generally parallel to the rows,

The keys of the standard keyboard 10 are generally identical in shape and size, except for the outer function and modifier keys which are usually horizontally elongated in order to give the complete standard keyboard a generally rectangular appearance. A normal key includes an upper finger engaging surface 2 of a generally square or rectangular configuration having a top edge portion 3 remote from a user, a bottom [button] edge portion 4 adjacent a user, a left edge portion 5 and a right edge portion 6. [A ridge 22 is located on at least one of the edges.]

The standard keyboard generally consists of a main alphanumeric body of at least three, but usually five, parallel, horizontal rows of keys (FIG. 1). At [The at] least three rows could consist of a top row remote from a user, a middle row and a bottom row adjacent a user, the rows generally consisting of a series of alphanumeric keys followed by a series of function keys. For example, in Figure 1, each of the three middle rows 12, 13, 14 include a sequence of alphabetical and grammatical characters (such as the QWERTY or Dvorak sequence), bordered on the end of each row by modifier or function keys of some sort. That is, row 12 remote from the user has its alphanumeric keys starting with Q on the far left edge and finishing with P on the far right edge. Row 13 is an intermediate row and has its alphanumeric keys starting with A on the far left edge and finishing with L on the far right edge. Similarly, row 14 being adjacent a user has its alphanumeric keys starting with Z on the far left edge and finishing with M on the far right.

The foundation of the improved keyboard 20 the subject of at least a preferred embodiment of this invention, one variation of which is shown in FIG. 3, is the idea of providing certain keys with the means of generating a specific feedback. The feedback differs according to the position of the key and is such that the feedback of certain keys together, creates a virtual "box" within which the fingers can travel. In other words, the keys are so modified that a "wall"

is created, which wall the fingers sense and within which wall they are guided (and almost forced) to operate. Therefore, not only the specific design of the keys gives the [that] typist the exact feel for where the finger is, but also the keys are [key is] so modified that they almost “force” the typist to stay within the “walls” that the modifications have created.

2. The key “R” 24 has a generally “L” shaped ridge 25 applied to the top border and to the right border (FIG. 2B). The ridge 25 is designed so that it will provide a finger with the feedback information that it has reached a specific position on the keyboard 20 namely, the upper right corner of the same imaginary rectangular box 23 described in 1 above. It should be noted, however, that the “L” shaped ridge could be formed by two separate ridges, one on the top border and one on the right [left] border.
3. The key “V” 26 has a generally “L” shaped ridge 27 applied to the bottom border and to the right border (FIG. 2C). The ridge 27 is designed so that it will provide a finger with the feedback information that it has reached a specific position on the keyboard 20 namely, the lower right corner of the same imaginary rectangular box 23 described in 1 above. It should be noted, however, that the “L” shaped ridge could be formed by two separate ridges, one on the bottom [top] border and one on the right [left] border.
4. The key “Z” 28 has a generally “L” shaped ridge 29 applied to the bottom border and to the left border (FIG. 2D). The ridge 29 is designed so that it will provide a finger with the feedback information that it has reached a specific position on the keyboard 20 namely, the lower left [right] corner of the same imaginary rectangular box 23 described in 1 above. It should be noted, however, that the “L” shaped ridge could be formed by

two separate ridges, one on the bottom [top] border and one on the left border.

5. The keys “A” 30 and “F” 31 each have one ridge 32, 33 applied to the left border in the case of the [home] key “A” 30 and to the right border in the case of the home key “F” 31 (FIG. 2E and FIG. 2F). These ridges 32, 33 are designed so that they provide the two fingers designated to use these keys with the feedback information that the fingers are in a “middle” row since the feedback is that of a lateral ridge without a corner. In other words, the finger senses that it is not in a “corner” position.
7. The key “P” 36 has a generally “L” shaped ridge applied to the top border and to the right border (similar to as shown in FIG. 2B). The ridge is designed so that it will provide a finger with the feedback information that it has reached a specific position on the keyboard namely, the upper right corner of the same imaginary rectangular box 35 described in 6 above. It should be noted, however, that the “L” shaped ridge could be formed by two separate ridges, one on the top border and one on the right [left] border.
8. The key “M” 37 has a generally “L” shaped ridge applied to the bottom border and to the left border (similar to as shown in FIG. 2D). The ridge is designed so that it will provide a finger with the feedback information that it has reached a specific position on the keyboard namely, the lower left [right] corner of the same imaginary rectangular box 35 described in 6 above. It should be noted, however, that the “L” shaped ridge could be formed by two separate ridges, one on the bottom [top] border and one on the left border.

9. The key “/” 38 has a generally “L” shaped ridge applied to the bottom border and to the right border (similar to as shown in FIG. 2C). The ridge is designed so that it will provide a finger with the feedback information that it has reached a specific position on the keyboard namely, the lower right corner of the same imaginary rectangular box 35 described in 6 above. It should be noted, however, that the “L” shaped ridge could be formed by two separate ridges, one on the bottom [top] border and one on the right [left] border.

It can also be seen that the modifications described in number 5 [4] and 6 above, can be used, if desired, to modify the keys “1”, “4”, “7”, “0” 48 of the row 16 of the QWERTY keyboard 10 of FIG.1 one obtains similar locational feel and feedback.

IN THE CLAIMS

1. (Amended) A key for a keyboard or keypad, said key having an upper finger engaged surface of generally square or rectangular configuration[s] so as to have a top edge portion remote from a user, a bottom edge portion adjacent the user, a left edge portion and a right edge portion, said key further having:

a ridge adjacent said top edge portion or said bottom edge portion and extending longitudinally generally parallel thereto; and

a ridge on said left or said right edge portion.

5. (Amended) The keyboard or keypad of claim 3 [or 4] wherein any key between said top left end key and said right top end key has a ridge adjacent the top edge portion thereof extending generally parallel to the rows, and any key between said bottom left end key and said right bottom end key includes a ridge adjacent the bottom edge portion thereof extending generally parallel to the rows.

6. (Amended) A Qwerty keyboard having a plurality of alphanumeric keys arranged in three linear rows including a top row which is remote from a user, a middle row, and a bottom row which is adjacent the user, each row having a left and a right end key, each key having an upper finger engaged surface of generally square or rectangular configuration so as to have top and bottom edge portions extending generally parallel to the rows, and left and right side edge portions extending generally normal to the rows, the keys being positioned in a left first set and a right second set, the first set including the three left end keys and at least the next two or three adjacent keys of each row, the second set including the three right end keys and the next adjacent two or three keys spaced toward the first set so that the two sets are spaced by two, three or four keys, and wherein the keys of said first set include:

thereof extending generally normal to the rows,

(i) a ridge on the top left end key adjacent the upper edge portion thereof extending generally parallel to the rows,

(ii) a ridge on the top left end key adjacent the left edge portion thereof extending generally normal to the rows,

(iii) a ridge on the middle left end key adjacent the left edge portion thereof extending generally normal to the rows,

(iv) a ridge on the bottom left end key adjacent the left edge portion thereof extending generally normal to the rows,

(v) a ridge on the bottom left end key adjacent the bottom edge portion thereof extending generally parallel to the rows,

(vi) a ridge on the next adjacent or next two adjacent keys to said bottom left end key of the bottom row adjacent the bottom edge portion thereof extending generally parallel to the rows,

(vii) a ridge on the next adjacent bottom key adjacent the bottom edge portion thereof

extending generally parallel to the rows,

(viii) a ridge on said last mentioned key adjacent the right edge portion thereof extending generally normal to the rows,

(ix) a ridge on the middle key next adjacent to said last mentioned key adjacent the right edge portion thereof extending generally normal to the rows,

(x) a ridge on the top key next adjacent said last mentioned key adjacent the right edge portion thereof extending generally normal to the rows,

(xi) a ridge on said last mentioned key adjacent the top edge portion thereof extending generally parallel to the rows,

(xii) a ridge on the or each top key between said last mentioned key and said top left end key adjacent the top edge portion thereof extending generally parallel to the rows, and the keys of said second set include:

(i) a ridge on the top right end key adjacent the upper edge portion thereof extending generally parallel to the rows,

(ii) a ridge on the top right end key adjacent the right edge portion thereof extending generally normal to the rows,

(iii) a ridge on the middle key adjacent said top right key adjacent the right edge portion thereof extending generally normal to the rows,

(iv) a ridge on the bottom right end key adjacent the right edge portion thereof extending generally normal to the rows,

(v) a ridge on the bottom right end key adjacent the bottom edge portion thereof extending generally parallel to the rows,

(vi) a ridge on the next adjacent or next two adjacent keys to said bottom right end key of the bottom row adjacent the bottom edge portion thereof extending generally parallel to the rows,

- (vii) a ridge on the next adjacent bottom key adjacent the bottom edge portion thereof extending generally parallel to the rows,
- (viii) a ridge on said last mentioned key adjacent the left edge portion thereof extending generally normal to the rows,
- (ix) a ridge on the middle key next adjacent to said last mentioned key adjacent the left edge portion thereof extending generally normal to the rows,
- (x) a ridge on the top key next adjacent said last mentioned key adjacent the left edge portion thereof extending generally normal to the rows,
- (xi) a ridge on said last mentioned key adjacent the top edge portion thereof extending generally parallel to the rows,
- (xii) a ridge on the or each top key between said last mentioned key and said top right end key adjacent the top edge portion thereof extending generally parallel to the rows.

8. (Amended) The Qwerty keyboard of claim 6 [or 7] wherein the two ridges of each end key meet.